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10/660,600	09/12/2003	Takafumi Noguchi	Q75429	7640

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EXAMINER

BOUTSIKARIS, LEONIDAS

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2872

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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 16, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Austin (US 5,508,091) in view of Miura (US 6,628,064) and further in view of Baba (US 6,911,963).

Austin discloses an AR film whose reflectance spectrum has minima in at least three regions, said regions including the respective three primary colors, i.e., around 450 nm (blue), around 530 nm (green), and around 610 nm (red), see Fig. 3, lines 9-13, col. 5. Furthermore, Austin discloses that the AR film is applied on the front surface of a display screen (e.g., see Fig. 7). However, Austin does not disclose that the display is a self-light emitting display, such as a CRT display. Miura discloses a CRT display, wherein an AR film is provided on the surface of the display (lines 33-38, col. 3, Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form an AR film on the surface of a CRT display, as taught by Miura, for avoiding glare associated with the display surface. Finally, Austin in view of Miura does not disclose that the display has light emission maxima in the three primary colors. Baba teaches that color displays have emission characteristics such that they emit in the three primary colors (lines 17-26, col. 18). It would have been obvious to one of ordinary skill in

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the art at the time the invention was made to use a color display having maximum emission at the three prime colors, as taught by Baba, for yielding an image which has a more neutral composite color.

Claims 3, 9, 17, 28, 34, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Austin (US 5,508,091) in view of Baba (US 6,911,963).

Regarding claims 3, 34, Austin discloses an AR film whose reflectance spectrum has minima in at least three regions, said regions including the respective three primary colors, i.e., around 450 nm (blue), around 530 nm (green), and around 610 nm (red), see Fig. 3, lines 9-13, col. 5. Furthermore, Austin discloses that the AR film is applied on the front surface of a display screen (e.g., see Fig. 7) of an LCD display. However, Austin does not teach that one or more three-band fluorescent lamps having maxima at the three primary colors are used with the LCD. Baba teaches that, among the other light sources used in conjunction with a display unit, fluorescent lamps similar to LEDs emitting each of the three primary colors are also used (lines 17-29, col. 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use fluorescent lamps in the display device of Austin, because of their long lifetime.

Regarding claims 9, 36, Austin discloses all the limitations of said claim except for teaching that an organic EL device may be used as a backlight in the LCD device of Austin. Baba does teach however, that *inter alia* EL elements may be used as light sources in color displays (lines 20-24, col. 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use organic EL elements as (backlight) light source for the

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LCD device of Austin, since EL elements offer design advantages because their emission properties depend on the chosen organic compound.

Regarding claims 17, 28, the LCD display of Austin is of a transmission type since the electrodes are transparent (thus allowing light pass therethrough), and translucent, see line 54, col. 11, also Fig. 7B.

Claims 4, 19-20, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Austin (US 5,508,091) in view of Chang (US 6,867,833).

Regarding claims 4, 19, 35, Austin discloses all the limitations of said claims except for teaching that the LCD display may be of the reflective type. Chang discloses an LCD display, wherein the light source (comprising three LEDs) has emission spectrum with maxima at the three primary colors (lines 16-22, col. 6, Fig. 3), which can operate in a reflective mode in addition to a transmission mode (see Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the AR film of Austin in conjunction with a reflective display device, in order to be operable regardless of the lighting conditions present.

Regarding claim 20, color filters may be used in conjunction with the device (lines 47-51, col. 8).

Claims 6, 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Austin (US 5,508,091) in view of Furugori (US 6,836,068).

Regarding claims 6, 22-23, Austin discloses all the limitations of said claim, except for teaching that the AR film may be used in conjunction with an organic EL device of the self-light emitting type including organic compounds emitting light in the three primary colors. Furugori discloses an organic EL display device, which emits light in the three primary colors (lines 17-28, col. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the AR film of Austin with an organic EL display device, since such devices suffer from glare problems (see lines 1-4, col. 3 in Furugori).

Regarding claim 21, the organic EL device comprises a substrate 14, a transparent electrode 13, a light emitting layer of organic compounds 12 and a back electrode 11 laminated on the substrate (Fig. 2, lines 55-61, col. 1).

Regarding claim 24, the organic material may comprise three different layers/materials emitting in the three primary colors (line 66, col. 5 to line 4, col. 6 in Furugori).

Regarding claim 25, Austin in view of Furugori does not specify the exact wavelength emitted for each of the primary colors (with the corresponding emitting organic compound). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the claimed organic compounds in the EL device of Austin in view of Furugori, since it has been held to be within the ordinary skill of worker in the art to select a known material on the basis of its suitability for the intended use. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). Here, the combination of Austin and Furugori teaches an EL display device having the claimed AR film and emitting light at the three primary colors. One skilled in the art would know the appropriate organic compound that emits light in the wavelength region of each primary color.

Allowable Subject Matter

Claims 1, 10-11, 14-15, 29-32 are allowed.

Claims 1, 10-11, 14-15, 29-32 are allowable over the prior art of record for at least the reason that even though the prior art discloses AR films having minima in the three primary colors, said films comprising 6 layers, the prior art fails to teach or reasonably suggest an AR film comprising 6 or 7 layers with the claimed indices of refraction and thickness for each layer, as set forth by the claimed combination.

Response to Applicant's Arguments

Applicant's arguments filed on 6/30/2006 have been fully considered but they are not persuasive.

Regarding Applicant's argument that Austin only discloses a small LCD display and he does not disclose an AR film on a CRT display device or an LCD device (display monitor), the examiner respectfully notes that the claim language only refers to an LCD without specifying the size of the display. Furthermore, the combination of the new reference Miura with Austin and Baba discloses the limitations of independent claim 2. Regarding Chang, said reference is cited for the teaching of an LCD display having a light source having maxima at the three primary colors, not for using three-band fluorescent lamps. In addition, Baba was cited for the teaching of using fluorescent lamps as a light source for the display, not for applying an AR film on the surface of the display.

Regarding the argument that Austin merely discloses a LCD device and fails to disclose an organic EL display device, it is noted that it is the combined teachings of Austin and Furugori

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that provide the limitations of independent claim 6. Finally, it is noted that Furugori does teach the use of an AR film on a display surface (see lines 21-27, col. 2).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308. The examiner can normally be reached on M-F, 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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August 22, 2006



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